

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

GEOLOGICAL REPORT

CLAIR 6,7,8,9 and 10

Fort Steele Mining Division

N.T.S. 82F/9

Latitude: 49° 39'N

Longitude: 116° 15'W

OWNER

Cominco Ltd.

Kootenay Exploration
2450 Cranbrook Street
Cranbrook, B.C.
VIC 3T4

Report by:

G.L. WEBBER

Under the supervision of:

DOUGLAS ANDERSON, P. Eng.,
Geologist

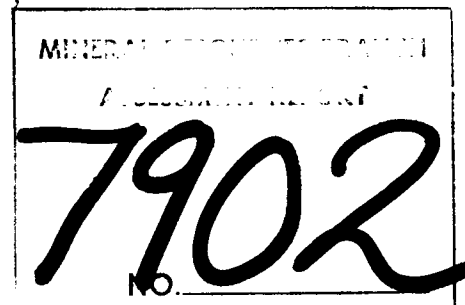


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COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

GEOLOGICAL REPORT

CLAIR 6,7,8,9 and 10

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1.00 GENERAL STATEMENT

This report details the results of geological mapping on the Clair 6,7,8,9 and 10 mineral claims (71 units) during the period June 1, 1979 to October 15, 1979.

Expenditures incurred in carrying out the geological work amounted to \$9,254.

Cominco requests the withdrawal of P.A.C. funds amounting to not more than 20 per cent of the combined cost of this geological program. (20% of \$9,254 = \$1,850). This raises the total assessment credit available to \$11,100.

It is requested that \$11,100 be applied as follows:

Clair 6 - 15 units @ \$100/year/unit for 1 year	\$ 1,500
Clair 7 - 20 units @ \$100/year/unit for 2 years	4,000
Clair 8 - 20 units @ \$100/year/unit for 2 years	4,000
Clair 9 - 4 units @ \$100/year/unit for 1 year	400
Clair10 - 12 units @ \$100/year/unit for 1 year	<u>1,200</u>
	\$11,100

An Affidavit on Application to Record Work has been submitted to the Gold Commissioner in Cranbrook, B.C.

2.00 INTRODUCTION

2.10 General

Geological mapping was undertaken to evaluate the economic mineral potential of the Clair Claim group, and to locate and determine the geological setting of lead-zinc mineralization in Helikian clastic sediments of the Aldridge Formation. The subject of this report is that portion of work that was conducted on the Clair 6,7,8,9 and 10 mineral claims.

Field work was conducted by Geologists I.D. McCartney, P. Klewchuk, N. Watson and Field Assistant K.P. Fennessy, between June 1 and October 15, 1979. Work was supervised by Douglas Anderson (P. Eng., Geologist). Special professional assistance was provided by J.M. Hamilton and D.T. Bishop. Geological data was plotted on a 1:20,000 scale orthophoto base map with a 20 metre contour interval, prepared for Cominco by McElhanney Surveying and Engineering Ltd. of Vancouver, B.C. Geological mapping is supplemented by mapping outside the boundaries of Clair 6 to 10 M.C.'s and several faults are projected from outside these claims.

2.20 Location and Access

Clair 6 to 10 mineral claims are situated approximately 20 km west of Kimberley; they are located north of Clair 3 and 5 and southwest of the Sullivan Mine claim block.

Latitude: 49° 39'N N.T.S. 82F/9
Longitude: 116° 15'W M.D. Fort Steele

Access to the property area is via logging road up the St. Mary River valley. No secondary 4-wheel drive roads exist on these claims. Vehicle access is restricted to the St. Mary River valley floor to the south, and the west fork of Matthew Creek to the north. Helicopter-supported camps were used during this mapping program.

2.30 Physiography

Elevations range from 1300 m to 2500 m and the claims are located over moderate to steep, rugged mountain slopes, that are heavily bush-covered, except for the extreme elevations. The claim area is out-of-range for feasible foot traverses from the valley floor. The area is mainly covered by immature to mature lodgepole pine fir and spruce.

2.40 Ownership and Status

The Clair claims 6 to 10 are 100% Cominco-owned and were staked during 1979.

The current status of the claims are as follows:

Claim	Record No.	No. of Units	Location Date	Expiry Date
Clair 6	605	15	April 27, 1979	April 27, 1980
Clair 7	606	20	April 27, 1979	April 27, 1980
Clair 8	607	20	April 27, 1979	April 27, 1980
Clair 9	693	4	July 6, 1979	July 6, 1980
Clair 10	694	12	July 6, 1979	July 6, 1980

3.00 GEOLOGY

3.10 Regional Setting

Clair 6 to 10 are entirely underlain by fine-grained, siliciclastic rocks of the Helikian Aldridge Formation, which is the lowermost subdivision of the Purcell Supergroup. The claims are located on the west side of the Purcell Anticlinorium, a major anticlinal structure affecting the Purcell Supergroup rocks. The anticline axis passes through the St. Mary Lake-Bootleg Mtn. area and is aligned parallel to the Purcell Mountains.

3.20 Faulting

The Alki Fault is the most prominent fault in the area. It dips west at approximately 60° and has a reverse displacement estimated at several hundred metres. This fault is actually composed of many slip surfaces over a zone up to 100 metres wide. Fault breccias and chlorite alteration occur throughout this zone and much of the zone is converted to a chloritic phyllite with foliation parallel to the fault.

Another high angle fault occurs near the west boundary of Clair 7. It appears to be a splay of the Alki Fault which it joins at the west boundary of Clair 10. This has reverse, west side up displacement estimated at 150 m. Both of these faults may become west dipping thrusts with depth.

An east-west striking, steeply dipping fault occurs in the footwall of the Alki Fault on Clair 10. The north side is downdropped with about 100 m displacement. This fault appears to be truncated by the Alki Fault.

On the north part of Clair 8, a gabbro sill is truncated by N and NE oriented high angle faults. The central block appears to be downdropped in a graben-type fault pattern. Another NE striking high angle fault occurs on the eastern boundary of Clair 8. Although gabbro sills appear to match up across this structure, the sill on the SE side is believed to be several hundred metres lower in stratigraphy than the sill on the NW side.

3.30 Folding

Major and minor folds are not well developed in the area, except for some drag folding adjacent to faults. The various structural blocks of the Aldridge Formation could be described as "fault bounded monoclines" with bedding only slightly tilted, or parallel between the various fault blocks.

3.40 Stratigraphy

The only sedimentary rocks underlying Clair 6-10 are the Helikian age Aldridge Formation. It is estimated that 80 per cent of this Formation is comprised of turbidite couplets whose average thickness is 25 cm and whose composition varies between quartzitic wacke and wacke. They are most often AE type turbidites of the Bouma turbidite model. The remainder of this Formation consists of thin-bedded to laminated interturbidite wacke and subwacke. The Aldridge Formation is intruded by gabbro sills and minor dykes, also thought to be of Helikian age. Commonly these intrusives constitute about 10% of a section on the Clair 6-10 claims.

Thin lenses of conglomerate and slumped beds occur approximately 50 m above the top of a gabbro sill on the east side of Clair 8 along a strike length of approximately 1 km. Such features are only locally developed in this stratigraphic interval and have not been noted elsewhere on Clair 6 to 10. The conglomerate lenses are about 1 or 2 metres thick and have tabular to angular sometimes laminated mudclasts, and rounded sandy clasts. Clasts are "floating" in a siltstone matrix.

3.50 Mineralization

Several adits have been driven in a gabbro sill along the west boundary of Clair 8. Minor Pb-Zn-Cu mineralization occurs in these adits in the form of chalcopyrite, sphalerite, and galena. Pyrrhotite and pyrite? are also common. All mineralization appears to be in quartz veins associated with the gabbro. Mineralization of similar type occurs in the west central part of Clair 10; here the mineralized quartz veins are parallel to the Alki Fault.

Gossans and highly rusty weathering Aldridge rocks occur along the border of Clair 6 and 7. These are attributed to high Fe-sulphide content in sedimentary sequence. No Cu-Pb-Zn mineralization has been located in this area.

4.00 CONCLUSIONS

1. Geological mapping and prospecting did not locate any significant economic targets on Clair 6-10.
2. Structure in the area is dominated by high angle block faulting rather than folding. The Alki Fault and a subsidiary fault in its hangingwall may represent the steeply dipping upper portion of thrust faults.
3. Additional evaluation of this ground will require soil geochemistry sampling in areas of poor rock exposure and stratigraphic testing by diamond drilling.

5.00 ATTACHMENTS

Plate 1 Location and claim map
Plate 2 Geology Map - 1:20,000.

Submitted by: *G.L. Webber*
G.L. WEBBER
Geologist

Endorsed by: *Douglas Anderson*
DOUGLAS ANDERSON, P.Eng.
Geologist

Approved for
Release by: *John Hamilton*
J.M. HAMILTON, P.Eng.
Chief Geologist,
Kimberley

January 1980

EXHIBIT "A"

STATEMENT OF EXPENDITURES

CLAIR CLAIMS 6-10 (71 units)

Geological Mapping

As a result of this geological mapping program, the following expenditures were incurred by Cominco Ltd.

Salaries:

I.D. McCartney (Geologist)	10 days @ \$90/day . . .	\$ 900
K.P. Fennessy (Assistant)	10 days @ \$50/day . . .	500
P. Klewchuk (Geologist)	7 days @ \$120/day . . .	840
N. Watson (Geologist)	7 days @ \$ 80/day . . .	560
D. Anderson (Geologist)	3 days @ \$148/day . . .	444
J.M. Hamilton (Geologist)	1 day @ \$200/day . . .	200
D.T. Bishop (Geologist)	2 days @ \$150/day . . .	300
G.L. Webber (Geologist)	report -	
	3 days @ \$114/day . . .	342

Transportation:

2 - 4x4 1/2 Ton - Total 23 days @ \$25/day	575
Helicopter - (Okanagan Helicopters)	3,393
Domicile - 40 days @ \$30/day	<u>1,200</u>
	\$9,254

SIGNED: *G.L. Webber*
G.L. WEBBER
GEOLOGIST

This is Exhibit "A" to the Statutory Declaration of G.L. Webber declared before me this 18 day of March, 1980.

Maribynne A. Ferguson

COMINCO LTD.

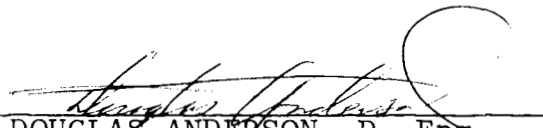
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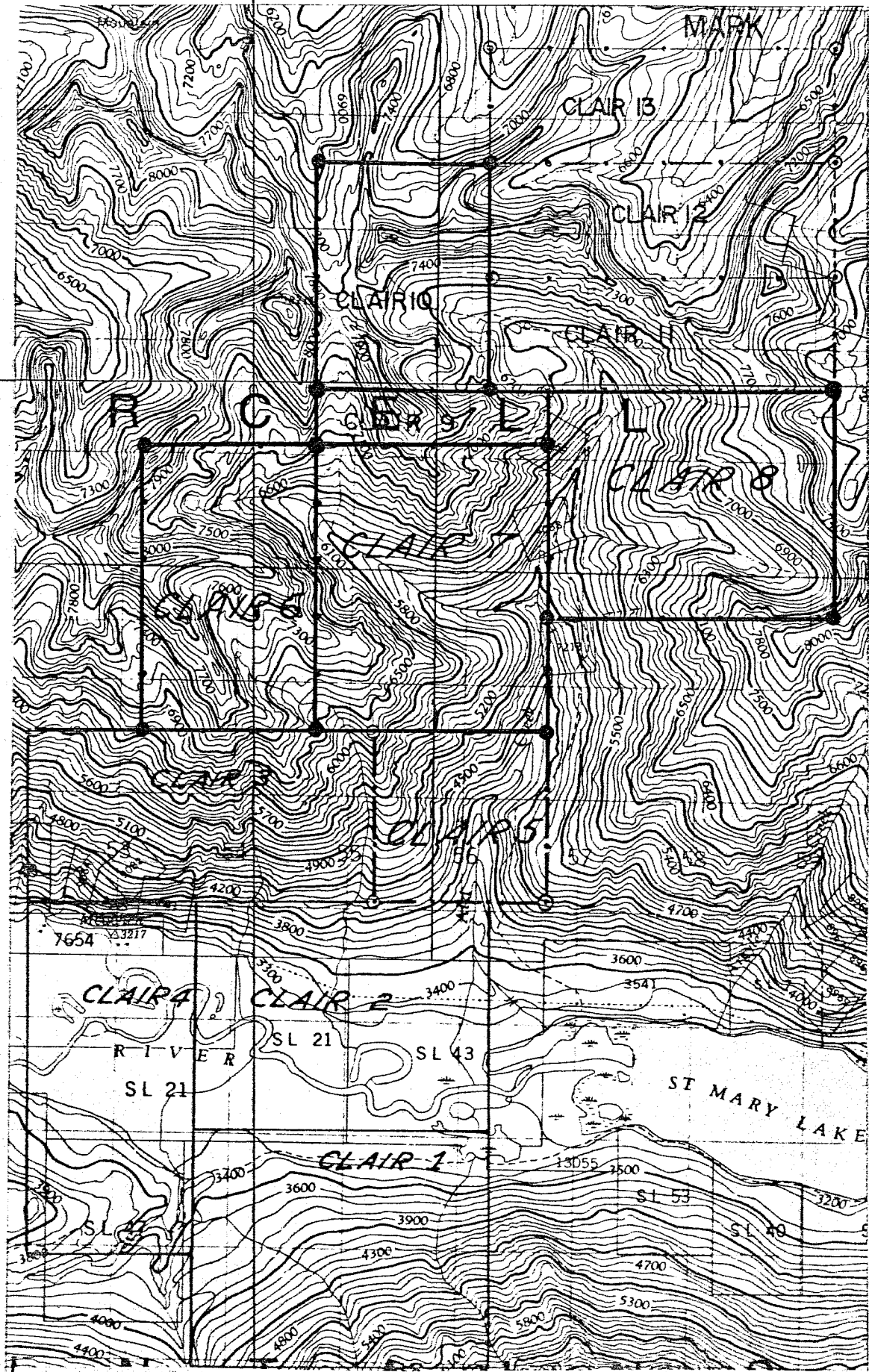
WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

G.L. WEBBER, has personally conducted many types of mineral exploration work for Cominco Ltd. over the last twenty-five years.

I consider him well-qualified to prepare this report.


DOUGLAS ANDERSON, P. Eng.,
Geologist



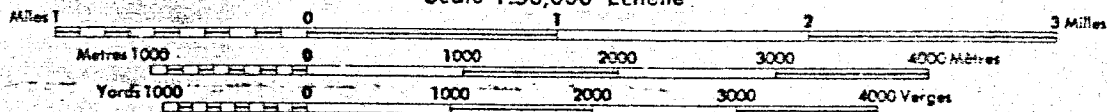
49° 40'

49° 40'

116° 15'

116° 15'

Scale 1:50,000 Échelle



7902



Drawn by: <i>G.L.W.</i>		Traced by:	
Revised by	Date	Revised by	Date

**CLAIR CLAIMS
and
LOCATION MAP**

NTS. 82/F9

Scale: 1:50,000

Date: Jan. 31st 1980

Plate:

